

Date: Sun, 21 Aug 94 04:30:22 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #246
To: Ham-Homebrew

Ham-Homebrew Digest Sun, 21 Aug 94 Volume 94 : Issue 246

Today's Topics:

 Current Capacity?
 DME (Dog Measuring Equipment)
 HELP: Providing power by induction??
 help with crystal set?
 How to resolder filament pin on 3-1000Z?
 need 16 to 18 vac xformer
 toroids
 VFO drift questions
 Where to buy kits?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 20 Aug 94 11:33:00 -0500
From: iat.holonet.net!wwwswinc!art.harris@uunet.uu.net
Subject: Current Capacity?
To: ham-homebrew@ucsd.edu

In<32qvql\$pc5@news.iastate.edu>, Ken Anderson asked:

KE>Could someone please email the current capacity of 24 AWG copper wire
KE>(stranded). It will be used at 13.8V.

The ARRL Handbook's copper wire table lists the capacity of 24 gauge as
0.577 Amps (for 700 circular mils per Amp) which they say is
satisfactory for small transformers.

Art N2AH

Date: 20 Aug 1994 19:28:03 -0400
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!europa.eng.gtefsd.com!
news.umbc.edu!eff!wariat.org!malgudi.oar.net!swiss.ans.net!newstf01.cr1.aol.com!
search01.news.aol.com!not-for-mail@@.
Subject: DME (Dog Measuring Equipment)
To: ham-homebrew@ucsd.edu

The Problem:

The dog keeps taking off.

It would cost too much to fence our 2 ac. in the woods,
and he usually takes off when the kids get bored throwing the ball for him
etc..

(So he's not on his chain when the kids are throwing the ball etc...)

Any system that worked could also be used to detect kid snatching etc...

The solution:

Devise a system that would tell me when He was leaving the yard.

The dog carried part would have to fit on the collar of an 85lb
dog.

It would be nice if the battery lasted at least a week.

Idea #1

Build a simple Distance measuring system (Pulse and respond)

Alarm when the dog was 300ft +- 50ft from the house.

+/- 50 Ft is +/- 50 nsec

Idea #2

Build a set of directional antenna that would detect when he left the
defined perimeter. (Two sets antennas on the ends of the yard.)

An array of antennas could also get some distance information from time of
arivals if the dog was within the antenna array.

four antenas on the corners of the yard?

with coax going to a central box??? (Probably too much coax \$\$\$)

Idea #3

Run a wire around the perimeter of the whole property carrying an ac
signal, when the collar detected the signal it would alarm???

I think there is a commercial system like this.

Questions:

1)Any other wild ideas?

2)What are the FCC rules asociated with low power unlicensed radiators?

What Freqs?

What Power Levels?

3)What kind of antenna could be mounted on a collar that would be rugged and omnidirectional?

What is used in wild animal radio tags?

4)How does the commercial perimeter system work?

What frequency does it operate on?

I hope the ideas were entertaining,

Thanks in advance

Paul Breed

KL7JG

Date: Fri, 19 Aug 1994 21:05:03 GMT

From: ihnp4.ucsd.edu!usc!nic-nac.CSU.net!charnel.ecst.csuchico.edu!psgrain!qiclab!
egreen!egreen!jmollan@network.ucsd.edu

Subject: HELP: Providing power by induction??

To: ham-homebrew@ucsd.edu

This idea has been used in the electric toothbrush business for years.
If you will notice their construction, there is no direct metal-to-metal
contact through the plastic.

Good luck

John AE7P

Date: 21 Aug 1994 00:54:01 -0400

From: newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@uunet.uu.net

Subject: help with crystal set?

To: ham-homebrew@ucsd.edu

I have just finished assembling my first crystal radio, and it doesn't
work. I'll try to explain my situation, and maybe somebody out there knows
of a possible problem?

I'm using a design called Telfunken, if that rings any bells. It involves
three coils (,which I have made sure are all wound in the same direction).
The first is connected to the antenna and the ground (the antenna is two
square feet of 15 loops, I think called a "dipole"? and the ground is a
radiator). The second is connected to a variable capacitor, and the third

to a diode and headphones (I have tried the diode in either direction, and the headphones are of the right type). The number of loops in the coil connected to the capacitor is 80, for the other two 30 (diameter of two inches).

The only possible problems I can think of is that the "ground" isn't really connected to the ground (although I have also tried a sink) or the individual wires of the antenna are not supposed to touch (which would be impossible to correct, because of the kinkiness of the antenna wire-- though I have connected my antenna to a store-bought radio and noticed a definite improvement in clarity) or that the capacitor is not of the right capacitance. The instructions I'm following call for a 365 picofarad capacitor, but in the schematic, they have a variable one. What I'm getting for a result is not static, but no sound whatsoever-- could this be related to improper grounding, antenna, or capacitance?

Thanks, JimCan

Date: Sun, 21 Aug 1994 03:37:37 GMT
From: ihnp4.ucsd.edu!usc!nic-nac.CSU.net!channel.ecst.csuchico.edu!csusac!csus.edu!netcom.com!dgf@network.ucsd.edu
Subject: How to resolder filament pin on 3-1000Z?
To: ham-homebrew@ucsd.edu

I have a used 3-1000Z tube which has solder missing from one of it's pins (one of the filament pins). This is making the filament connection intermittent. All of the other pins are OK. Is there a procedure to replace the solder or otherwise fix this problem? I don't want to risk destroying the tube by reheating the pin improperly.

Thanx for any advice!

73 Dave WBOGAZ dgf@netcom.com

Date: 17 Aug 1994 21:45:14 GMT
From: pacbell.com!att-out!nntp!gw1.att.com!news.bu.edu!olivea!channel.ecst.csuchico.edu!yeshua.marcam.com!usc!howland.reston.ans.net!cs.utexas.edu!gerald.cc.utexas.edu!usenet@@ihnp4.ucsd.edu
Subject: need 16 to 18 vac xformer
To: ham-homebrew@ucsd.edu

need 15 to 20 vac xformer @ approx 5-15 amps.

richard

Date: 19 Aug 94 11:30:07 GMT
From: psinntp!newsserver.pixel.kodak.com!newsserver.rdc.Kodak.COM!eastman!woody!
bmitchel@uunet.uu.net
Subject: toroids
To: ham-homebrew@ucsd.edu

I would wind my own..
88mh,
look up in the ARRL handbook powered Iron cores.
Then the equation to calculate the number of turns for a specific core is
 $100 \times \sqrt{88 \mu\text{H} / A_L}$ Where the value of A_L values for each specific core.

Also, the color of the core depicts things like operational freq etc.
You can buy cores from Amidon.. Address, I'm not sure, but they do sell in
small quantities.

Good luck!
Brad WB8YGG

Date: Sat, 20 Aug 1994 12:01:16 +0000
From: news.sprintlink.net!demon!arkas.demon.co.uk!Michael@uunet.uu.net
Subject: VFO drift questions
To: ham-homebrew@ucsd.edu

In article <330a7b\$iq3@mnews.mro.dec.com>
randolph@est.enet.dec.com "Tom Randolph" writes:

>
> I'm building a 40m copy of W1FB's "universal VFO" as seen in QRP Notebook.
> I have the actual oscillator itself running, no buffer stages yet. About
> how much drift can I expect out of one of these before I get it closed up
> in some kind of box? I found that I can blow on it and get it to drift by
> a couple of hundred Hz, presumably due to cooling/heating...
>
> Description for those without the book: Hartley osc., #6 material toroid
> and NP0 caps, MPF102 JFET with 9V supply regulated by a Zener. I cheated a
> bit and used a cheapo trimmer cap in the osc. (Mouser's "6mm snap-in mount",
> listed as N750). Should I fork over the \$3 for the air trimmer?

Hi Tom

The variation of the VFO's toroidal core with temperature will cause drift - generally large enough to be annoying! :)

When building oscillators I follow some of the guidelines in "Solid State Design for The Radio Amateur": don't use iron powder / ferrite cores -wind air-core inductors if possible; mechanically secure all components, as vibration will cause drift and FM'ing; and numerous others.

I've used Series-tuned Clapp and Colpitts oscillators as free-running VFO's with relatively low drift (i.e. without a PLL circuit to stabilise them) - these can be built to minimise the use of iron powder / ferrite.

To test the drift, use a hairdryer (no kidding!). Observe the frequency with the dryer alternately set to "no-heat" and "warm" for short periods, and you'll get an indication of whether the VFO will do what you want, or whether you wish to try re-designing it.

73's de VK2ENG

--

Michael J Dower

'Quoth the raven, "Never more".' ... Poe

Date: 20 Aug 1994 20:02:37 -0700
From: nntp.crl.com!crl5.crl.com!not-for-mail@decwrl.dec.com
Subject: Where to buy kits?
To: ham-homebrew@ucsd.edu

What are the best sources for kits for amplifiers, receivers, transmitters, antennas, etc.

Also, where is the best place to find plans for building such things from scratch? Especially antennas.

Dennis

--

Dennis Rice
NAU Flagstaff

drice@crl.com
Waiting for call sign.

... Alex, I'll take "Things Only I Know" for \$1000.

* TLX v3.40 *

Date: Fri, 19 Aug 94 23:54:45 GMT
From: ihnp4.ucsd.edu!news.cerf.net!nntp-server.caltech.edu!elroy.jpl.nasa.gov!lll-winken.llnl.gov!csustan!scott@network.ucsd.edu
To: ham-homebrew@ucsd.edu

References <1994Aug16.112800.2208@csdvax.csd.unsw.edu.au>,
<Cun0Dq.7to@abacus.demon.co.uk>, <pomplun-180894144909@k2hug.llnl.gov>
Subject : Re: HELP: Providing power by induction??

In article <pomplun-180894144909@k2hug.llnl.gov> pomplun@llnl.gov (Don Pomplun) writes:

>
>> > I am interested in how I can supply power to a circuit without the need
>> >for any physical contacts.
>Take apart an Interplak electric tooth brush.
>It has a primary coil charging stand and the thing charges inductively.

A method of getting 120 volts to tower lights on AM broadcast antennas is the use of a commercially available "transformer" that has an ~4-inch gap between a "primary" wound around a toroid and a "secondary" that is a much larger ID coil. Imagine two ~10-inch diameter rings "meshed" at a 90-degree angle. It works like any other transformer except for the big air gap. Not too efficient, but the RF-to-ground isolation is fantastic.

-substation scott

Date: Sat, 20 Aug 1994 21:18:01
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!europa.eng.gtefsd.com!news.umbc.edu!hookup!news.sprintlink.net!indirect.com!s17.phxslip2.indirect.com!barry@network.ucsd.edu
To: ham-homebrew@ucsd.edu

References <eaime084-1408941503350001@fl08ara003.comm.mot.com>,
<keith.35.0009023A@radio.nl.nuwc.navy.mil>, <300@coutts.UUCP>7.phx
Subject : Re: XYL Reactions (snicker- Kodak moment) (was Re: IC-751A HF Transceiver)

In article <300@coutts.UUCP> wwg@coutts.UUCP (Warren Gay) writes:
>From: wwg@coutts.UUCP (Warren Gay)
>Subject: XYL Reactions (snicker- Kodak moment) (was Re: IC-751A HF Transceiver)
>Date: 19 Aug 94 02:56:31 GMT
>Keywords: radio dishwasher cleaning xyl

>In article <keith.35.0009023A@radio.nl.nuwc.navy.mil>
>keith@radio.nl.nuwc.navy.mil (Keith Kanoun) writes:
>>In article <eaim084-1408941503350001@fl08ara003.comm.mot.com> eaim084@email.
>>mot.com (Steve Carlton) writes:
>>>A friend of mine had a similar experience with a HW-101 which was sitting
>>>in a garage in Florida for many years. It was full of dirt and cobwebs. He
>>>took all the tubes out and put it in a dishwasher and washed it then
>>>rinsed several times. After drying, he replaced all the tubes, cleaned the
>>>volume control, etc and the unit fired right up. Don't know if this will
>>>work for you, but it did for WB4ZZB.
>[...]
>>Maybe plain water in the dishwasher (no soap) is "safest".
>[...]
>>keith@radio.nl.nuwc.navy.mil

>If it has any plastic parts, be very careful. At the end of the wash,
>many dishwashers turn on a heating element that has ruined many a
>plastic article in ours. Since a HF rig is not something you
>casually put in the dishwasher and go watch TV, I suppose this
>is not too much of a problem to remember to remove it!

>I would think that meters might suffer from leakage and water
>moisture build up.

>But then again, as in some equipment, if you have nothing to lose,
>then why not. I know some people that have disassembled hard disks
>in their "non-clean" basements, and put them back into service
>successfully. So, who knows whether a gamble pays off or not?

>Actually, come to think of it... why not put the TUBES in the top
>rack? Get them all nice and spiffy clean... they're least likely
>to suffer from it, assuming they can't move much!

> - * -

>I can just imagine what my XYL's reaction would be... opening the
>dish washer and pulling out the top drawer full of tubes (snicker)...
>...then pulling out the bottom drawer with the old boat-anchor
>(rig) sitting on it!!!

>Then the side tray where the silverware normally goes, I could leave
>my favourite pliers, screwdrivers, and open-end and box-end wrenches.

>Ah... that would be fun... even if it meant the dog house for a week.
>A Kodak moment... good footage for America's funniest videos.

That HW101 would be clean enough to eat off of!

barry

>-----

>Warren W. Gay VE3WWG John Coutts Library Services Limited
>wwg@coutts.UUCP Niagara Falls, Ontario, Canada
>(or wwg%coutts@uunet.ca, wwg%coutts@uunet.uu.net)

Date: 19 Aug 94 09:07:35 EDT
From: psinntp!main03!drager.com!landisj@uunet.uu.net
To: ham-homebrew@ucsd.edu

References <5QyTM9i.mstrand@delphi.com>, <CuK7H6.6sr@utnetw.utoledo.edu>,
<CuMw7B.1tvF@yuma.ACNS.ColoState.EDU>du
Subject : Re: 6m amplifier using vacuum tubes

> In article <CuK7H6.6sr@utnetw.utoledo.edu> pouelle@uoft02.utoledo.edu writes:
>>In article <5QyTM9i.mstrand@delphi.com>, mstrand@delphi.com writes:
>>>Ben Slagle <aq760@yfn.ysu.edu> writes:
>>>>I need a schematic for a small, vacuum tube 6m amplifier... I'd
>>>>like it to be in the area of 10 watts... nothing fancy, just a
>>>If you can find an old tube type low band (40 - 50 mHz) two way radio,
>>>Motorola, GE, etc, the final amp could easily be moved to 6m. These are
>>If you wanted a 10w solid state amp, you could base it on the 2sc3133. ICOM
>>uses it in an older 6m rig (IC-505) and the transistor is not too expensive.
>

Or, how about buying an old Heath DX-60 at a hamfest for \$40, gutting it, and
retuning the 6146 final for 6M? Tube smell, about 75Watts.

Joe - AA3GN

--

Joe Landis - System & Network Mgr. - North American Drager Co. Telford, PA
landisj@drager.com | uupsi5!main03!landisj | AA3GN@WA3TSW.#EPA.PA.USA
Opinions are mine only, and do not reflect those of my employer.
...Munging Until No Good...

End of Ham-Homebrew Digest V94 #246
